

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	21097	catalyst near12 promoter	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 18:39
L3	3298	methylmercaptan methanethiol	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 18:39
L4	65	L3 and L2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 18:53
L5	13890	molybdenum adj oxide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 18:53
L6	8	L4 and L5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 18:53
S6	276	"568/59".CCLS.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 08:56
S7	1	((T1QUAN) near2 (YANG)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 08:54
S8	116	((Q1) near2 (WANG)).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 08:54
S9	2	((T1QUAN) near2 (YANG)).INV.	EPO; JPO; DERWENT	OR	ON	2007/11/13 08:55
S10	37	((Q1) near2 (WANG)).INV.	EPO; JPO; DERWENT	OR	ON	2007/11/13 08:55
S11	2613	"502/150,200;300".CCLS.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 08:55
S12	359	"568/59,70".CCLS.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 08:56

EAST Search History

S13	1328	potassium adj molybdate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 08:57
S14	1764	ammonium adj heptamolybdate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 08:57
S15	13890	molybdenum adj oxide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 08:57
S16	115	S13 and S14	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 08:58
S17	49	S16 and S15	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:25
S18	3298	methylmercaptan methanethiol	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:49
S19	1328	potassium adj molybdate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:25
S20	1764	ammonium adj heptamolybdate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:25
S21	115	S19 and S20	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:25
S22	1	S18 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 18:39

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S23	2613	"502/150,200,300" CCL5.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 11:27
S24	1	S23 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:31
S25	359	"568/59,70" CCL5.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 11:27
S26	1	S25 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:31
S27	10	S23 and S18	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:50
S28	20	S25 and S18	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 12:12
S29	0	("2592646"), URPN.	USPAT	OR	ON	2007/11/13 11:38
S30	0	("2592646"), URPN.	USPAT	OR	ON	2007/11/13 11:38
S31	4	molybdenum adj oxygen adj potassium Mo-O-K	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:45
S32	3504	methylmercaptan methanethiol methane adj thiol	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:49
S33	1	S32 and S21	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:49
S34	10	S23 and S32	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 11:50

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S35	22	S25 and S32	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2007/11/13 12:12
S36	5	((JAN-OLAF) near2 (BARTH)), INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 12:50
S38	137	((KLAUS) near2 (HUTHMACHER)), INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 12:53
S39	6	((HUBERT) near2 (REDLINGSHOFFER)), INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 12:53
S40	42	((CHRISTOPH) near2 (WECKBECKER)), INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 12:55
S41	1	((SABINE) near2 (ACKERMANN)), INV.	US-PGPUB; USPAT; USOCR	OR	ON	2007/11/13 12:55

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=> d his

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007

L1 1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007

L2 766 S L1

L3 766 S L1 SSS FULL

L4 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007

L5 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

L6 1337 S POTASSIUM (A) MOLYBDATE

L7 1 S L6 AND L3

L8 7212 S AMMONIUM (A) MOLYBDATE

L9 1 S L3 AND L8

L10 6171 S METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL

L11 7216 S L10 AND L6 OR L8

L12 4 S L10 AND L6

L13 2 S L10 AND L8

L14 273 S L10 AND L3

L15 1 S L14 AND L6

L16 1 S L14 AND L8

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NEWS 6 JUL 16 CAPLUS enhanced with French and German abstracts
NEWS 7 JUL 18 CA/Captus patent coverage enhanced
NEWS 8 JUL 26 USPTAFULL/USPAT2 enhanced with IPC reclassification
NEWS 9 JUL 30 USGENE now available on STN
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NEWS 23 OCT 02 CA/Captus enhanced with pre-1907 records from Chemiesches Zentralblatt
NEWS 24 OCT 19 BEILSTEIN updated with new compounds
NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0C(ENG) AND V6.0JC(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

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Page 1 11/13/07

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=> s 74-93-1/rn
L1 1 74-93-1/RN

=> d str

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2007 ACS on STN

H3C-SH

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

=> file casreact

Page 2 11/13/07

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COST IN U.S. DOLLARS

FULL ESTIMATED COST

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FILE CONTENT:1840 - 10 NOV 2007 VOL 147 ISS 21

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* CASREACT now has more than 13.8 million reactions *

Some CASREACT records are derived from the ZIC/VINITI database (1974-1999) provided by InfoChem. INPI data prior to 1996, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l1 766 L1
L2
=> s l1 sss full
L3 766 L1

=> d fhitr 1-10
'FHITSTR' IS NOT A VALID FORMAT FOR FILE 'CASREACT'

The following are valid formats:

ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE, Single-step Reactions
APPS ----- AL, PRAI
BIB ----- AN, plus Bibliographic Data
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
DALL ----- ALL, delimited (end of each field identified)
IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IND ----- Indexing data
IPC ----- International Patent Classifications
ISTD ----- STD, indented with text labels
OBIB ----- AN, plus Bibliographic Data (original)
OBIB ----- OBIB, indented with text labels
SBIB ----- BIB, no citations

Page 3 11/13/07

10/595333 MERCAPTAN

SIBIB ----- IBIB, no citations

MAX ----- Same as ALL

PATS ----- PI, SO
SCAN ----- TI and FCRD (random display, no answer number. SCAN must be entered on the same line as DISPLAY, e.g.,
D SCAN.)

SSRX ----- Single-Step Reactions (Map, Diagram, and Summary for all single-step reactions)

STD ----- BIB, IPC, and NCL

CRD ----- Compact Display of All Hit Reactions
CRDREF ----- Compact Reaction Display and SO, PY for Reference
FHIT ----- Reaction Map, Diagram, and Summary for first hit reaction

FHITCBIB ----- FHIT, AN plus CBIB
FCRD ----- First hit in Compact Reaction Display (CRD) format
FCRDREF ----- First hit in Compact Reaction Display (CRD) format with CA reference information (SO, PY). (Default)

FPAATH ----- PATH, plus Reaction Summary for the "long path"
FSPATH ----- SPATH, plus Reaction Summary for the "short path"

HIT ----- Reaction Map, Reaction Diagram, and Reaction Summary for all hit reactions and fields containing hit terms

OCC ----- All hit fields and the number of occurrences of the hit terms in each field. Includes total number of HIT, PATH, SPATH reactions. Labels reactions that have incomplete verifications.

PATH ----- Reaction Map and Reaction Diagram for the "long path". Displays all hit reactions, except those whose steps are totally included within another hit reaction which is displayed

RX ----- Hit Reactions (Map, Diagram, Summary for all hit reactions)
RXG ----- Hit Reaction Graphics (Map and Diagram for all hit reactions)
RXL ----- Hit Reaction Long (Map, Diagram, Summary for all hit reactions)
RXS ----- Hit Reaction Summaries (Map and Summary for all hit reactions)
SPATH ----- Reaction Map and Reaction Diagram for the "short path". Displays all single step reactions which contain a hit substance. Also displays those multistep reactions that have a hit substance in both the first and last steps of the reaction, except for those hit reactions whose steps are totally included within another hit reaction which is displayed

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=). Examples of combinations include: D TI; D BIB RX; D TI, AU, FCRD. The information is displayed in the same order as the specification. All of the formats, except CRD, CRDREF, FHIT, PATH, FPAATH, SPATH, FSPATH, FCRD, FCRDREF, HIT, RX, RXG, RXS, SCAN, and OCC, may be used with the DISPLAY command to display the record for a specified Accession Number.

ENTER DISPLAY FORMAT (FCRDREF): fcrdref

L3 ANSWER 1 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

Page 4 11/13/07

10/595333 MERCAPTAN

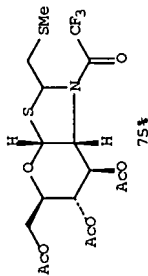
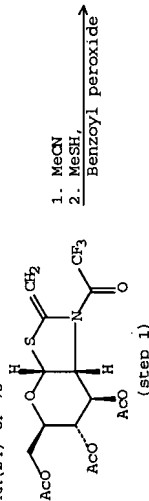
RX (1) OF 15



REF: PCT Int. Appl., 2007085514, 02 Aug 2007
 NOTE: autoclave used, heterogeneous catalyst. 7-10% WO_3 , 7-10% Cs_2O , alumina support (Degussa)
 CON: STAGE(1) room temperature \rightarrow 140 deg C; 2.5 hours, 140 deg C

L3 ANSWER 2 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (24) OF 73

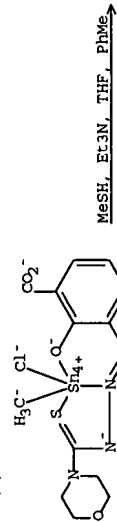


REF: Organic Letters, 9(12), 2321-2324; 2007
 NOTE: photochemical (uv), stereoselective (isomer mix.)
 CON: STAGE(1) room temperature \rightarrow -30 deg C
 STAGE(2) 20 minutes, -30 deg C; 100 minutes, -30 deg C

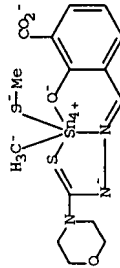
L3 ANSWER 3 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

10/595333 MERCAPTAN

RX (7) OF 27



H⁺

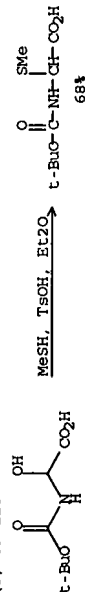


H⁺
70%

REF: Journal of Coordination Chemistry, 60(10), 1057-1067; 2007
 CON: 4 days, room temperature

L3 ANSWER 4 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (3) OF 118

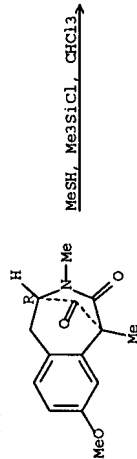


REF: Journal of Medicinal Chemistry, 50(9), 2067-2077; 2007
 NOTE: methanethiol gas condensed into pressure bottle which is then sealed, molecular sieves used
 CON: STAGE(1) -40 deg C; 96 hours, room temperature

L3 ANSWER 5 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

10/595333 MERCAPTAN

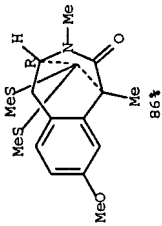
RX (9) OF 56



REF: Synthesis, (1), 55-60; 2007

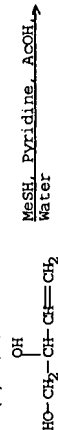
NOTE: optimized on alkanethiol, optimization study

CON: STAGE(1) room temperature -> 0 deg C; 0 deg C; overnight, 0 deg C -> room temperature



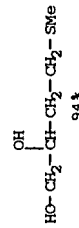
L3 ANSWER 6 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (1) OF 5



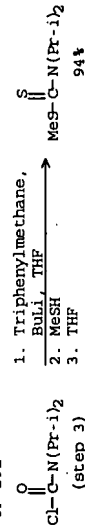
REF: PCT Int. Appl., 2007032177, 22 Mar 2007

CON: STAGE(1) 0 deg C; 4 hours, 40 deg C, 0.25 MPa



L3 ANSWER 7 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (7) OF 291



REF: Journal of the American Chemical Society, 129(4), 914-923; 2007

STAGE(1) -30 deg C

STAGE(2) -30 deg C

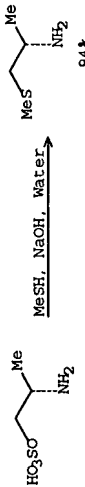
STAGE(3) 0 deg C; 18 hours, room temperature

Page 7 11/13/07

10/595333 MERCAPTAN

L3 ANSWER 8 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (2) OF 6



REF: PCT Int. Appl., 2007022900, 01 Mar 2007

NOTE: Reactant assumed

CON: STAGE(1) 30 minutes, room temperature; 5 - 10 hours, 90 deg C

L3 ANSWER 9 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (2) OF 6



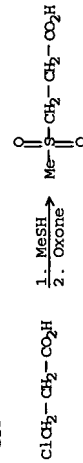
REF: PCT Int. Appl., 2007022901, 01 Mar 2007

NOTE: reactant assumed

CON: STAGE(1) 30 minutes, room temperature; 5 - 10 hours, 90 deg C

L3 ANSWER 10 OF 766 CASREACT COPYRIGHT 2007 ACS on STN

RX (25) OF 115



REF: Bioorganic & Medicinal Chemistry Letters, 17(1), 73-77; 2007

=> d his

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FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007

1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007

766 S L1

766 S L1 SSS FULL

=> s l3 and hydrogen (w) hydrogen (a) sulfide (w) carbon (a) oxide

40682 HYDROGEN

720 HYDROGENS

41159 HYDROGEN

Page 8 11/13/07

10/595333 MERCAPTAN

(HYDROGEN OR HYDROGENS)
40682 HYDROGEN
720 HYDROGENS
41159 HYDROGEN
(HYDROGEN OR HYDROGENS)
14436 SULFIDE
5922 SULFIDES
15920 SULFIDE
(SULFIDE OR SULFIDES)
44920 CARBON
1565 CARBONS
45923 CARBON
(CARBON OR CARBONS)
36648 OXIDE
10026 OXIDES
38845 OXIDE
(OXIDE OR OXIDES)
0 HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L4 0 L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
=> file heaplu
COST IN U.S. DOLLARS
FULL ESTIMATED COST
SINCE FILE ENTRY TOTAL
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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3 and hydrogen (w) hydrogen (a) sulfide (w) carbon (a) oxide
1026211 HYDROGEN
6078 HYDROGENS
1029588 HYDROGEN
(HYDROGEN OR HYDROGENS)
1026211 HYDROGEN
6078 HYDROGENS
1029588 HYDROGEN

Page 9 11/13/07

10/595333 MERCAPTAN

(HYDROGEN OR HYDROGENS)
333883 SULFIDE
89170 SULFIDES
367144 SULFIDE
(SULFIDE OR SULFIDES)
1320445 CARBON
28143 CARBONS
1330422 CARBON
(CARBON OR CARBONS)
1812166 OXIDE
351815 OXIDES
1911476 OXIDE
(OXIDE OR OXIDES)
0 HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L5 0 L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
=> s potassium (a) molybdate
653921 POTASSIUM
18 POTASSIUMS
653924 POTASSIUM
(POTASSIUM OR POTASSIUMS)
36812 MOLYBDATE
5695 MOLYBDATES
38616 MOLYBDATE
(MOLYBDATE OR MOLYBDATES)
L6 1337 POTASSIUM (A) MOLYBDATE
=> d his

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L1 FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
1 S 74-93-1/RN
L2 FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007
766 S L1
766 S L1 SSS FULL
L3 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L4 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L5 FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007
L6 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
1337 S POTASSIUM (A) MOLYBDATE
=> s l6 and l3
766 L3
L7 1 L6 AND L3
=> d bib abs hitstr
L7 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS ON STN
ACCESSION NUMBER: 2004:1130642 HCAPLUS
DOCUMENT NUMBER: 142:431920
TITLE: Novel Mo-based catalysts for methanethiol synthesis from high H₂S-containing syngas
AUTHOR(S): Wang, Qi; Chen, Ai-Ping; Xie, Chun-Fang; Zheng, Quan-Xing; Fang, Wei-Ping; Yuan, You-Zhu; Zhang, Hong-Bin; Yang, Yi-Quan
CORPORATE SOURCE: Department of Chemistry, Institute of Physical

Page 10 11/13/07

Chemistry, Key Laboratory for Physical Chemistry of Solid Surface, Xiamen University, Xiamen, 361005, Peop. Rep. China
 Huaxue Xuebao (2004), 62(23), 2297-2302
 CODEN: HHPA4; ISSN: 0567-7351
 Kexue Chubanshe
 Journal
 Chinese
 CASREACT 142:431920

AB A series of supported Mo-based catalysts for methanethiol synthesis from high H₂S-containing syngas were investigated by kinetics and XPS, ESR characterization. The activity evaluating results show that upon the potassium-promoted Mo-based catalysts, the methanethiol will become dominant product of the reaction, and the activity sequence of several Mo-based catalysts for the reaction is as follows: K₂MoO₄/CoO/SiO₂ > K₂MoO₄/SiO₂ > MoO₃/K₂CO₃/SiO₂ > K₂MoO₄/SiO₂ > MoS₂/K₂CO₃/SiO₂. In the ESR characterization of the catalysts used the resonant signals of "oxo-Mo(V)" and "thio-Mo(V)" can be detected. The XPS characterization indicates that mixed valence Mo species Mo⁴⁺, Mo⁵⁺ and Mo⁶⁺ and three kinds of S species S²⁻, (S-S)²⁻ and S⁶⁺ exist in the catalysts. As a promoter CoO was introduced into Mo-based catalysts. It was observed that the addition of CoO leads to decrease of the amount of "oxo-Mo(V)" in the catalysts, but increase of the amount of "thio-Mo(V)", which may be connected with "Mo-S-K" phase or "Co-Mo-S-K" phase, meanwhile CoO in the catalyst was found to enhance the formation of S²⁻, but inhibit the formation of (S-S)²⁻. It was found also that the methanethiol synthesis is favored if the peak intensity ratios of (Mo⁴⁺ + Mo⁵⁺)/Mo⁶⁺ and S²⁻/(S-S)²⁻ are kept at about 0.75 and 1 level resp. A possible mechanism about the relationship of CH₃SH formation with "Mo-S-K" phase was proposed.

=> d his

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

L1 FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
 1 S 74-93-1/RN

L2 FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007
 766 S L1
 766 S L1 SSS FULL

L3 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
 L4

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007

L5 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
 L6 1337 S POTASSIUM (A) MOLYBDATE
 L7 1 S L6 AND L3
 L8

=> s ammonium (a) molybdate

405019 AMMONIUM

419 AMMONIUM

(AMMONIUM OR AMMONIUMS)

36812 MOLYBDATE

5695 MOLYBDATE

38616 MOLYBDATE

(MOLYBDATE OR MOLYBDATE)

7212 AMMONIUM (A) MOLYBDATE

=> d his

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

L1 FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
 1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007

766 S L1

766 S L1 SSS FULL

0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007

0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

1337 S POTASSIUM (A) MOLYBDATE

1 S L6 AND L3

7212 S AMMONIUM (A) MOLYBDATE

=> s l3 and l8

766 L3

1 L3 AND L8

=> d his

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

L1 FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
 1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007

766 S L1

766 S L1 SSS FULL

0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007

0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

1337 S POTASSIUM (A) MOLYBDATE

1 S L6 AND L3

7212 S AMMONIUM (A) MOLYBDATE

1 S L3 AND L8

=> d l9 ibib abs hitstr

L9 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:288625 HCAPLUS

DOCUMENT NUMBER: 129:54004

TITLE: Effect on the reaction between methanol and hydrogen

sulfide of Na or Mo doping on zirconia and alumina

Ziolek, M.; Kujawa, J.; Czyniewska, J.; Nowak, I.;

Aboulayc, A.; Saut, O.; Lavalley, J. C.

Faculty of Chemistry, A. Mickiewicz University,

Poznan, Pol.

SOURCE: Applied Catalysis, A: General (1998), 171(1), 109-115

CODEN: ACAGE4; ISSN: 0926-860X

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

10/595333 MERCAPTAN

OTHER SOURCE(S): CASREACT 129:54004

AB The effect of sodium doping on alumina and zirconia activity in methanethiol formation from hydrosulfurization of methanol by H₂S was studied. It provoked an activity decrease and a selectivity increase in agreement with the catalysts basicity increase. By contrast, molybdenum doped zirconia samples presented a higher activity but a lower selectivity than pure zirconia, as expected from their higher acidity. Increase of the CH₃OH/H₂S ratio in the reaction mixture improved both activity and CH₃SH selectivity. It was found that zirconia loaded with small amounts of molybdenum working under H₂S excess shows good performances towards CH₃SH production

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s Methylmercaptan or methanethiol or methane (a) thiol

964 METHYLMERCAPTAN

7 METHYLMERCAPTAN

(METHYLMERCAPTAN OR METHYLMERCAPTANS)

5163 METHANETHIOL

21 METHANETHIOLS

5170 METHANETHIOL

(METHANETHIOL OR METHANETHIOLS)

181578 METHANE

3482 METHANES

183041 METHANE

(METHANE OR METHANES)

56800 THIOL

38401 THIOLS

78386 THIOL

(THIOL OR THIOLS)

140 METHANE (A) THIOL

6171 METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL

=> d his

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007

1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007

766 S L1 SSS FULL

0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007

0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

1337 S POTASSIUM (A) MOLYBDATE

1 S L4 AND L3

7212 S AMMONIUM (A) MOLYBDATE

1 S L3 AND L8

6171 S METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL

=> s l10 and l6 or l8

7216 L10 AND L6 OR L8

Page 13 11/13/07

10/595333 MERCAPTAN

=> s l10 and l6

L12 4 L10 AND L6

=> s l10 and l8

L13 2 L10 AND L8

=> d l12 ibib 1-4 abs hitstr

L12 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:395243 HCAPLUS

DOCUMENT NUMBER: 142:431977

TITLE: Process for the manufacture of methylmercaptan

INVENTOR(S): Yang, Yiquan; Wang, Qi; Lin, Renchun; Zhang, Hongbin;

Yuan, Youzhu; Fang, Weiping; Zheng, Quanxing; Dai,

Shenjun; Yan, Xingqun; Chen, Aiping; Barth, Jan-Olaf;

Weckbecker, Christoph; Ruchmayer, Klaus;

Redlingshoefer, Hubert; Ackermann, Sabine

Degussa A.-G., Germany

PCT Int. Appl., 31 pp.

CODEN: PIXXD2

Patent

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

WO 2005040082 A2 20050506 WO 2004-EP10872 20040929

WO 2005040082 A3 20050714

W: AE, AG, AL, AM, AT, AU, AZ, BA, BG, BR, BW, BY, BZ, CA, CH,

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,

GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC,

LG, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI,

NO, NZ, OM

RH: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,

EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,

SI, SK, TR, BF, BJ, CF, CG, CI, CM, GN, GG, GW, ML, MR, NE,

SN, TD, TG

CN 1528515 A 20040915 CN 2003-10100495 20031010

CN 1528516 A 20040915 CN 2003-10100496 20031010

CN 1559676 A 20050105 CN 2004-10008377 20040312

EP 1670754 A2 20060621 EP 2004-765676 20040929

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK

CN 1867545 A 20061122 CN 2004-80029637 20040929

BR 2004015200 A 20061205 BR 2004-15200 20040929

JP 2007508256 T 20070405 JP 2006-530037 20040929

US 2007213564 A1 20070913 US 2007-595333 20070126

PRIORITY APPLN. INFO.: CN 2003-10100495 A 20031010

CN 2003-10100496 A 20031010

CN 2004-10008377 A 20040312

WO 2004-EP10872 W 20040929

AB The present invention refers to a continuous process for the manufacture of methylmercaptan using Mo-O-K-based catalysts. It is further described that the total selectivity of methylmercaptan can be increased by at least 1% by lowering the total gas hourly space velocity. The invention further refers to a process for the preparation of a solid, preformed catalyst

Page 14 11/13/07

system.

L12 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:1130642 HCAPLUS
 DOCUMENT NUMBER: 142:431920
 TITLE: Novel Mo-based catalysts for methanethiol synthesis from high H₂S-containing syngas
 AUTHOR(S): Wang, Qi; Chen, Ai-Ping; Xie, Chun-Fang; Zheng, Quan-Xing; Pang, Wei-Ping; Yuan, You-Zhu; Zhang, Hong-Bin; Yang, Yi-Quan
 CORPORATE SOURCE: Department of Chemistry, Institute of Physical Chemistry, Key Laboratory for Physical Chemistry of Solid Surface, Xiamen University, Xiamen, 361005, Peop. Rep. China
 SOURCE: Huaxue Xuebao (2004), 62(23), 2297-2302
 CODEN: HHPA4; ISSN: 0567-7351
 PUBLISHER: Kexue Chubanshe
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 OTHER SOURCE(S): CASREACT 142:431920
 AB A series of supported Mo-based catalysts for methanethiol synthesis from high H₂S-containing syngas were investigated by kinetics and XPS, ESR characterization. The activity evaluating results show that upon the potassium-promoted Mo-based catalysts, the methanethiol will become dominant product of the reaction, and the activity sequence of several Mo-based catalysts for the reaction is as follows: K₂MoO₄/CoO/SiO₂ > K₂MoO₄/SiO₂ > MoO₃/K₂O/SiO₂ > K₂MoS₄/SiO₂ > MoS₂/K₂O/SiO₂. In the ESR characterization of the catalysts used the resonant signals of "oxo-Mo(V)" and "thio-Mo(V)" can be detected. The XPS characterization indicates that mixed valence Mo species Mo⁴⁺, Mo⁵⁺ and Mo⁶⁺ and three kinds of S species S²⁻, (S-S)²⁻ and S⁶⁺ exist in the catalysts. As a promoter CoO was introduced into Mo-based catalysts. It was observed that the addition of CoO leads to decrease of the amount of "oxo-Mo(V)" in the catalysts, but increase of the amount of "thio-Mo(V)", which may be connected with "Mo-S-K" phase or "Co-Mo-S-K" phase, meanwhile CoO in the catalyst was found to enhance the formation of S₂, but inhibit the formation of (S-S)₂. It was found also that the methanethiol synthesis is favored if the peak intensity ratios of (Mo⁴⁺ + Mo⁵⁺)/Mo⁶⁺ and S²⁻/(S-S)₂ are kept at about 0.75 and 1 level resp. A possible mechanism about the relationship of CH₃SH formation with "Mo-S-K" phase was proposed.

L12 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:658931 HCAPLUS
 DOCUMENT NUMBER: 135:359357
 TITLE: Study of the supported K₂MoO₄ catalyst for methanethiol synthesis by one step from high H₂S-containing syngas
 AUTHOR(S): Yang, Yi-Quan; Yang, Hua; Wang, Qi; Yu, La-Jia; Wang, Cheng; Dai, Shen-Jun; Yuan, You-Zhu
 CORPORATE SOURCE: Department of Chemistry, Institute of Physical Chemistry and State Key Laboratory for Physical Chemistry of Solid Surfaces, Xiamen University, Xiamen, 361005, Peop. Rep. China
 SOURCE: Catalysis Letters (2001), 74(3-4), 221-225
 CODEN: CALER; ISSN: 1011-372X
 PUBLISHER: Kluwer Academic/Plenum Publishers
 DOCUMENT TYPE: Journal

English

AB MoO₃/K₂O/SiO₂ and K₂MoO₄/SiO₂ catalysts were characterized and evaluated in Mesh preparation from high H₂S-containing syngas. The two catalysts have similar activity in the reaction.
 REFERENCE COUNT: 19
 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1963:432418 HCAPLUS
 DOCUMENT NUMBER: 59:32418
 ORIGINAL REFERENCE NO.: 59:5825D-c
 TITLE: The role of the catalyst in the reaction of alcohols and hydrogen sulfide
 AUTHOR(S): Folkins, Hillis O.; Miller, Elmer L.
 SOURCE: Pure Oil Co., Crystal Lake, IL
 CORPORATE SOURCE: Proc. Am. Petrol. Inst. (1962), Sect. III 42, 188-96
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 AB The formation of RSH or R₂S in the high-temperature reaction of ROH with H₂S can be controlled by the suitable choice of a catalyst. With activated Al₂O₃ as a standard support, incorporation of basic promoters such as oxides and salts of alkali metals and alkaline earth oxides increased the RSH formation, whereas acid promoters such as H₃PO₄ increased the R₂S formation. Comparison of activated Al₂O₃ various compns. of SiO₂-Al₂O₃ and SiO₂-MgO as supports showed an inverse relation between RSH production and ROH acidity. The selectivity of the catalyst and yield of RSH depended on the concentration of promoters and catalyst temperature

=> d his
 (FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)
 FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
 L1 1 S 74-93-1/RN
 L2 766 S L1
 L3 766 S L1 SSS FULL
 L4 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007
 L5 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
 L6 1337 S POTASSIUM (A) MOLYBDATE
 L7 1 S L6 AND L3
 L8 7212 S AMMONIUM (A) MOLYBDATE
 L9 1 S L3 AND L8
 L10 6171 S METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL
 L11 7216 S L10 AND L6 OR L8
 L12 4 S L10 AND L6
 L13 2 S L10 AND L8

=> d l13 ibib 1-2 abs hitstr
 L13 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1998:288625 HCAPLUS
 DOCUMENT NUMBER: 129:54004

TITLE: Effect on the reaction between methanol and hydrogen sulfide of Na or Mo doping on zirconia and alumina
AUTHOR(S): Ziolk, M.; Kujawa, J.; Czyzewska, J.; Nowak, I.; Aboulayt, A.; Saur, O.; Lavalley, J. C.
CORPORATE SOURCE: Faculty of Chemistry, A. Mickiewicz University, Poznan, Pol.

SOURCE: Applied Catalysis, A: General (1998), 171(1), 109-115
CODEN: ACAGE4; ISSN: 0926-860X
PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal
LANGUAGE: English

OTHER SOURCE(S): CASREACT 129:54004

AB The effect of sodium doping on alumina and zirconia activity in methanethiol formation from hydrosulfurization of methanol by H₂S was studied. It provoked an activity decrease and a selectivity increase in agreement with the catalysts basicity increase. By contrast, molybdenum doped zirconia samples presented a higher activity but a lower selectivity than pure zirconia, as expected from their higher acidity. Increase of the CH₃OH/H₂S ratio in the reaction mixture improved both activity and CH₃SH selectivity. It was found that zirconia loaded with small amts. of molybdenum working under H₂S excess shows good performances towards CH₃SH production

REFERENCE COUNT: 26
THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1976-576836 HCAPLUS

DOCUMENT NUMBER: 85-176836

TITLE: Alkylsulfonic acids

INVENTOR(S): Schreyer, Gerd; Geiger, Friedrich; Hensel, Joerg
PATENT ASSIGNEE(S): Deutsche Gold- und Silber-Scheideanstaltvorm.

SOURCE: Roessler, Fed. Rep. Ger.
Ger. Offen., 7 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2504201	A1	19760819	DE 1975-2504201	19750201
FR 2298319	A1	19760827	FR 1976-2324	19760128
FR 2298319	B1	19790202		
BE 638148	A1	19760730	BE 1976-6045349	19760130
US 4052445	A	19771004	US 1976-655018	19760204
			US 1975-2504201	A 19750201
			US 1976-654062	A2 19760202

AB RSO3H (R = alkyl) were prepared by the oxidation of RSH or R2S2 by H2O2 in the presence of ammonium molybdate or tungstate. Thus, oxidation of an aqueous solution of MeSH and ammonium paramolybdate (I) with 3 moles

H2O2 at 10-90° gave 85.5% MeSO3H. Without I there was no reaction.

=> d l15

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

L1 FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
1 S 74-93-1/RN

L2 FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007
766 S L1
L3 766 S L1 SSS FULL
L4 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

L5 FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007
0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L6 1337 S POTASSIUM (A) MOLYBDATE
L7 1 S L6 AND L3
L8 7212 S AMMONIUM (A) MOLYBDATE
L9 1 S L3 AND L8
L10 6171 S METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL
L11 7216 S L10 AND L6 OR L8
L12 4 S L10 AND L6
L13 2 S L10 AND L8

=> s l10 and l3

L14 766 L3
273 L10 AND L3

=> s l14 and l6

L15 1 L14 AND L6

=> s l14 and l8

L16 1 L14 AND L8

=> d

L16 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:28625 HCAPLUS

DN 129:54004

TI Effect on the reaction between methanol and hydrogen sulfide of Na or Mo doping on zirconia and alumina

AU Ziolk, M.; Kujawa, J.; Czyzewska, J.; Nowak, I.; Aboulayt, A.; Saur, O.; Lavalley, J. C.

CS Faculty of Chemistry, A. Mickiewicz University, Poznan, Pol.

SO Applied Catalysis, A: General (1998), 171(1), 109-115

CODEN: ACAGE4; ISSN: 0926-860X

PB Elsevier Science B.V.

DT Journal

LA English

OS CASREACT 129:54004

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l15

L15 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:1130642 HCAPLUS

DN 142:431920

TI Novel Mo-based catalysts for methanethiol synthesis from high

H2S-containing syngas

AU Wang, Qi; Chen, Ai-Ping; Xie, Chun-Fang; Zheng, Quan-Xing; Fang, Wei-Ping;

10/595333 MERCAPTAN

Yuan, You-Zhu; Zhang, Hong-Bin; Yang, Yi-Quan
Department of Chemistry, Institute of Physical Chemistry, Key Laboratory
for Physical Chemistry of Solid Surface, Xiamen University, Xiamen,
361005, Peop. Rep. China
SO Huaxue Xuebao (2004), 62(23), 2297-2302
CODEN: HHPA4; ISSN: 0567-7351
PB Kexue Chubanshe
DT Journal
LA Chinese
OS CASREACT 142:431920

=> fil stng	SINCE FILE	TOTAL
COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	77.00	176.73
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	ENTRY	SESSION
	-6.24	-6.24

FILE 'STNGUIDE' ENTERED AT 12:43:05 ON 13 NOV 2007
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: NOV 9, 2007 (20071109/UP).

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FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
L1 1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007
L2 766 S L1
L3 766 S L1 SSS FULL
L4 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007
L5 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L6 1337 S POTASSIUM (A) MOLYBDATE
L7 1 S L6 AND L3
L8 7212 S AMMONIUM (A) MOLYBDATE
L9 1 S L3 AND L8
L10 6171 S METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL
L11 7216 S L10 AND L6 OR L8
L12 4 S L10 AND L6
L13 2 S L10 AND L8
L14 273 S L10 AND L3
L15 1 S L14 AND L6
L16 1 S L14 AND L8

FILE 'STNGUIDE' ENTERED AT 12:43:05 ON 13 NOV 2007

10/595333 MERCAPTAN

=> d his

(FILE 'HOME' ENTERED AT 12:27:48 ON 13 NOV 2007)

FILE 'REGISTRY' ENTERED AT 12:28:02 ON 13 NOV 2007
L1 1 S 74-93-1/RN

FILE 'CASREACT' ENTERED AT 12:28:30 ON 13 NOV 2007

L2 766 S L1
L3 766 S L1 SSS FULL
L4 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE

FILE 'HCAPLUS' ENTERED AT 12:31:07 ON 13 NOV 2007

L5 0 S L3 AND HYDROGEN (W) HYDROGEN (A) SULFIDE (W) CARBON (A) OXIDE
L6 1337 S POTASSIUM (A) MOLYBDATE
L7 1 S L6 AND L3
L8 7212 S AMMONIUM (A) MOLYBDATE
L9 1 S L3 AND L8
L10 6171 S METHYLMERCAPTAN OR METHANETHIOL OR METHANE (A) THIOL
L11 7216 S L10 AND L6 OR L8
L12 4 S L10 AND L6
L13 2 S L10 AND L8
L14 273 S L10 AND L3
L15 1 S L14 AND L6
L16 1 S L14 AND L8

FILE 'STNGUIDE' ENTERED AT 12:43:05 ON 13 NOV 2007

FILE 'HCAPLUS' ENTERED AT 12:46:56 ON 13 NOV 2007
L17 1 S YANG, Y?/AU AND WANG, Q?/AU AND LIN, R?/AU AND ZHANG, H?/AU AND Y
L18 0 S BARTH, J?/AU AND WECKERBECKER, C?/AU AND HUTHWACHER, K?/AU AND R

=> s l7 and l18

L19 0 L7 AND L18